DOCUMENT RESUME

ED 375 007 SE 055 306

TITLE	Mathematics and Science Course-Taking Patterns. Indicator of the Month.
INSTITUTION	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-94-672
PUB DATE	Sep 94
NOTE	4p.
PUB TYPE	Statistical Data (110)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Algebra; Biology; Calculus; Chemistry; *Enrollment Trends; Geometry; *High School Graduates; High Schools; *Mathematics Curriculum; Mathematics Education; Physics; Science Curriculum; Science Education; Trigonometry

ABSTRACT

This issue of "Indicator of the Month" lists percentages of high school graduates taking selected mathematics and science courses in high school in 1982, 1987, 1990, and 1992. Findings include: (1) High school graduates in 1992 were more likely to take mathematics courses at the level of algebra I or higher and most science courses at the level of biology or higher than their counterparts in 1982; (2) The percentage of high school graduates who took algebra II and geometry and the percentage who took biology and chemistry increased 6 percentage points from 1990 to 1992 (to 50 and 54 percent, respectively); (3) The percentage of high school graduates who had taken remedial mathematics declined from 33 percent in 1982 to 17 percent in 1992; and (4) A larger percentage of graduates, both male and female, earned credit in biology, chemistry, and physics than their 1982 counterparts; similar percentages of males and females earned credit in biology and chemistry in 1982 and 1992; however, males were consistently more likely than females to earn credit in physics. (MKR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 375 007

National Center for Education Statistics

Mathematics and science course-taking patterns

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it

☐ Minor changes have been made to improve reproduction quality

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

SE055306

BEST COPY AVAILABLE

INDICATOR of the MONTH

NATIONAL CENTER FOR EDUCATION STATISTICS

September 1994

Mathematics and science course-taking patterns

Courses in mathematics and science can teach students to use higher level thinking skills to solve complex problems. These skills are considered valuable both in educational and marketplace settings. Analysis of course-taking patterns of high school graduates can indicate levels of exposure in these fields for individuals about to advance to higher education or enter the workforce.

- **High school graduates in 1992 were more likely to take mathematics courses at the level of algebra I or higher and most science courses at the level of biology or higher than their counterparts in 1982.**
- **The percentage of high school graduates who took algebra II and geometry and the percentage who took biology and chemistry increased 6 percentage points between 1990 and 1992 (to 50 and 54 percent, respectively.)**
- **The percentage of high school graduates who had taken remedial mathematics declined from 33 percent in 1982 to 17 percent in 1992.**
- **A larger percentage of graduates, both male and female, earned credit in biology, chemistry, and physics than their 1982 counterparts. Furthermore, similar percentages of males and females earned credit in biology and chemistry in both years. However, males were consistently more likely than females to earn credit in physics.**

Percentage of high school graduates taking selected mathematics and science courses in high school: 1982, 1987, 1990, and 1992

Mathematics and science courses*	1982	1987	1990	1992	Percentage point change 1982–87	1987–90	1990–92	1982–92
Mathematics								
Remedial/below grade level math	32.5	24.9	23.6	17.4	-7.6	-1.3	-6.2	-15.1
Algebra I	68.4	76.3	77.3	79.4	7.8	1.0	2.2	11.0
Algebra II	36.9	47.1	49.2	56.1	10.3	2.1	6.8	19.2
Geometry	48.4	61.5	64.7	70.4	13.1	3.2	5.7	22.0
Trigonometry	12.2	19.0	18.4	21.1	6.8	-0.7	2.7	8.9
Analysis/precalculus	5.8	12.8	13.5	17.2	7.0	0.7	3.7	11.4
Calculus	4.3	6.2	6.6	10.1	1.8	0.4	3.5	5.8
Algebra II and geometry	29.1	42.4	44.0	50.1	13.4	1.6	6.1	21.0
Algebra II, geometry, trigonometry, and calculus	0.8	2.4	2.2	2.7	1.6	-0.8	0.5	1.9
Science								
Biology	78.7	88.3	91.6	93.0	9.7	3.3	1.4	14.3
Chemistry	31.6	44.8	49.6	55.5	13.1	4.9	5.9	23.9
Physics	13.5	19.5	21.5	24.7	6.1	2.0	3.3	11.2
Biology and chemistry	28.6	43.0	48.2	53.9	14.4	5.2	5.7	25.3
Biology, chemistry, and physics	9.8	16.8	18.9	21.6	7.0	2.1	2.7	11.8

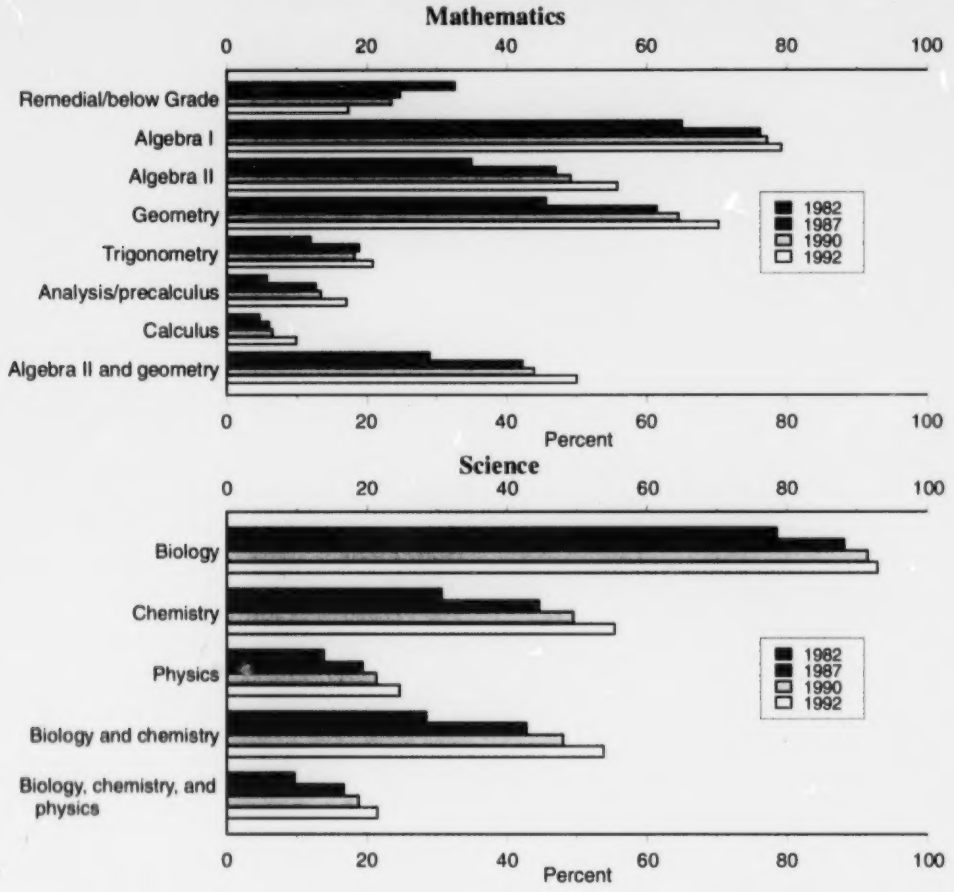
*The minimum number of units used for inclusion in this indicator was 1.00 for individual courses except for algebra II, trigonometry, and analysis/precalculus where 0.5 was set as the minimum number of credits.

NOTE: Percentages reflect only those courses taken in high school. Because some students take algebra I and other similar courses in the eighth grade, these percentages could underestimate the number of individuals who have ever taken algebra I and other subjects in school. Numbers have been revised from previous year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond Transcript Study, 1987 and 1990 NAEP High School Transcript Studies, National Education Longitudinal Study Transcripts, 1992.

SE0053306

Percentage of high school graduates taking selected mathematics and science courses: 1982, 1987, 1990, and 1992



SOURCE: U.S. Department of Education, National Center for Education Statistics, *High School and Beyond Transcript Study*, 1987 and *1990 NAEP High School Transcript Studies, National Education Longitudinal Study Transcripts*, 1992.

This indicator is extracted from *The Condition of Education, 1994*. It is in the public domain and all or part may by reproduced with appropriate cite. Suggested citation: U.S. Department of Education, National Center for Education Statistics, *The Condition of Education, 1994*, Washington, D.C.: 1994. To obtain a copy of the full volume of *The Condition of Education*, call the Government Printing Office Order and Information Desk at (202) 512-1800, order number S/N 065-000-00667-7.

United States
Department of Education
Washington, DC 20208–5650

Official Business
Penalty for Private Use, $300

Postage and Fees Paid
U.S. Department of Education
Permit No. G–17

FIRST CLASS